



SINDH CURRICULUM FOR

LIBRARY SCIENCE

GRADE XI-XII

2024



GOVERNMENT OF SINDH
SCHOOL EDUCATION & LITERACY DEPARTMENT
DIRECTORATE OF CURRICULUM, ASSESSMENT & RESEARCH SINDH JAMSHORO

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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PREFACE

This curriculum framework serves as a guide for different stakeholders, including leaders, educators, students, textbook authors, reviewers, and examiners. It outlines the essential elements of the framework and its design principles. The document applies to all types of higher secondary schools and colleges in Sindh, with a focus on students interested in understanding the library science and its relevance in everyday life. It provides clear benchmarks and learning outcomes for each grade level to support teachers.

The existing curriculum aims to improve the quality of learning experiences through formal instruction during the two-year study of library science for XI-XII in educational institutions across Sindh province. It incorporates specific benchmarks and student learning outcomes. Recognizing that the study of library science is an ongoing developmental process, these benchmarks have been set for each educational stage. Furthermore, grade-specific student learning outcomes enable teachers and learners to evaluate their progress in meeting these benchmarks by the end of each academic year,

Throughout each grade, the curriculum introduces new knowledge and skills while emphasizing their integration with students' existing understanding. The framework follows a spiral progression, revisiting and reinforcing skills to promote consolidation. Essentially, learners work toward achieving a stable benchmark through consistent practice and reinforcement.

The Curriculum of Library Science comprehensively covers typically five themes:

1. Collection Management
2. Information Systems and Technology
3. Cataloguing and Classification
4. Reference
5. Management of Library Resources and services.

Moreover, the Library Science Curriculum 2024 has been developed on the bases of Standards of National Curriculum of Pakistan (NCP) 2022-23, allowing for smooth integration with other subjects taught in colleges. Our hope is that this curriculum will empower teachers in Sindh to deliver high-quality library information, ultimately benefiting students and preparing them for future challenges and opportunities.



INTRODUCTION

Library Science is the study of the principles and practices of library administration. In the 20th century, it was gradually subsumed under the field of information. It is an interdisciplinary science that integrates the humanities, law, and applied science to study topics related to libraries; the collection, organization, preservation, and dissemination of information resources, and the political economy of information. The libraries have always endeavored to serve the needs of the societies of which they were a part. Historically, library science has also included archival science. This comprises

- How information resources are prearranged to serve the needs of select user groups
- How people interact with classification systems and technology,
- How information is acquired, assessed, and applied by people in and outside of libraries as well as cross-culturally
- How people are skilled and educated for careers in libraries
- The applied science of computer technology used in documentation and records management

Academic courses in library science typically include:

- Collection management
- Information Systems and Technology
- Cataloguing and Classification
- Reference
- Management of Library Resources and Services

In general, the student who is preparing for graduate humanities, social sciences, and natural science. The basic professional curriculum includes a core of courses which includes

- A General Introduction to Librarianship
- Selection of materials
- Cataloguing and Classification
- Reference materials /Library services

Library Science is continuously developing, and integrating new topics like Database Management, Information Architecture, and Knowledge Management.

There is generally no settled difference between library science, library and information science, and librarianship. To a certain level, they can be measured in equivalent terms, possibly accepted to increase the "Science" aspect or improve the popular image of librarians.

The nature of the curriculum plays a vital role in producing well-educated librarians. The principal goal of the study of library science is to help the students to become technologically literate. This is accomplished by exposing students to a wide variety of knowledge, and experiences together working with applications and subject area software.



By providing a broad range of knowledge and the latest methodologies, we can help students understand how the use of the library can facilitate learning of all subjects. One operational vision, implied by some textbooks, is that librarianship means the professional characteristics of work as a librarian, such as certification, in-service training and training in librarianship.

Most professional library jobs require a professional post-baccalaureate degree in library science, or one of its equivalent terms, library and information science as basic documentation. In the United States and Canada, the certification usually comes from a master's degree granted by an ALA-accredited institution, so even non-scholarly librarians have an original academic background. In the United Kingdom, however, there have been moves to broaden the entry requirements to professional library posts, such that qualifications in, or experience of, several other disciplines have become more acceptable.

TYPES OF LIBRARY SCIENCE PROFESSIONALS

1. Librarian
2. Archivist
3. Cataloguer
4. Computer, Data, and Information Systems professionals
5. Curator
6. Indexers
7. Information Architect
8. Information broker
9. Metadata Architects
10. Metadata Managers

RATIONALE FOR CURRICULUM ENHANCEMENT

Syllabi are being revised and upgraded to meet the latest challenges of the present day. The Ministry of Education, Sindh province desired to review the National Curriculum for Library Science to make it more vital, relevant to the modern socio-economic, technical, professional, and labour market needs of the country, Sindh province and comparable with international standards.

The Curriculum Development team of Library Science for Grades XI-XII was framed involving subject experts and teachers of Library Science from Colleges and Universities all over Sindh Province. The following strategies were adopted in designing/ developing the curriculum:

The present effort of developing the Library Science Curriculum is a wide-ranging exercise, which is based on:

1. Consultative meetings with the working stakeholders to identify their needs
2. Identification of standards.
3. Study of foreign curricula for comparison and guidelines.
4. Identify and decide curriculum areas per capability profile.
5. Drafting of contents, learning outcomes, and practicals.
6. Preparation of detailed content in the light of competencies to be developed
7. Preparation of study and evaluation scheme for implementing the curriculum.



CORE AREAS OF CURRICULUM

The curriculum of Library Science has been tailored and designed to enable the students to meet the diversified challenges of the modern world. Emphasis has been laid on encouraging the practical work and application of concepts, which are useful in the workplace. It is a rigorous and exhaustive curriculum having an articulated blend of knowledge, skills, and attitude.

The prime objective of this curriculum is to empower the students with scientific acumen by developing self-motivated and innovative minds and skill sets, which would be catalytic in paving the way to a knowledge-based society.

This document of Grades XI-XII covers the following broad spectrum of Library Science:

1. Historical background of library science and Information Science
2. Introduction to Library
3. Importance and role of Library Science and introduction of the latest technologies
4. Historical background and evolution of writing media
5. Basic knowledge about printing and publishing
6. Understanding of factors that became the basis of the evolution of libraries
7. Knowledge about the libraries and their role in the society
8. Understanding of nature and type of library material
9. Understand the interrelationships of special libraries and modern libraries
10. Knowledge about the major libraries of Pakistan
11. Importance and status of the profession of librarianship in Pakistan
12. Knowledge of library and information science
13. Development of library collection
14. Organizing the library collection classification and cataloguing,
15. Understanding of the circulation system
16. Understanding about the services for library users
17. Knowledge of managing the library
18. Solution of basic problems faced by the librarians
19. Knowledge of finding information in the library
20. Knowledge and awareness of online information resources
21. Knowledge of searching and accessing online information resources
22. Knowledge about the online tools
23. Introduction to marketing of Library Services
24. Knowledge about the Benefits of Libraries



THE CURRICULUM DEVELOPMENT PROCESS

Identifying Contents

Selecting Contents

Developing Learning
Standards

Developing Benchmarks

Developing Student Learning
Outcomes (SLOs)

Domain-wise Weightage



Instructions in the
Classroom

Assessment and Evaluation

General Instructions to
Authors

Electronic Instruction
Material

Domain-wise Organizing
System

Glossary

Development Team



OBJECTIVES

1. To introduce the subject of Library and Information Science to intermediate-level students and provide a broad understanding of the field of library and information science.
2. To create an understanding of books and libraries and their dynamic role in everyday life.
3. To develop an understanding of the relations between technological developments and the changing nature of the profession.
4. To provide a basic understanding of the issues for information organization, management, and transfer in all information environments.
5. To establish awareness of the primary issues of library and information profession in Pakistan.
6. To develop skills for effective exploitation of the library resources and services and the ICT-based information resources and equipment for life long learning support.
7. To acquaint students with the information resources on Islam and Pakistan.



STANDARDS AND BENCHMARKS

Preparing students for success in the new millennium and beyond calls for increasing rigor and relevance in the curriculum. In adult roles, individuals are expected to work with others in a team setting, have an acquired knowledge base, be able to extend and refine knowledge, be able to construct new knowledge and applications and have a habit of self-assessing their assimilation of each dimension in their everyday decision-making process.

This curriculum document is built upon standards, benchmarks, and learning outcomes for the benefit of student growth and progress.

STANDARDS are what students should know and be able to do. Standards are broad descriptions of the knowledge and skills students should acquire in a subject area. The knowledge includes important and enduring ideas, concepts, issues, and information. The skills include the ways of thinking; working, communicating, reasoning, and investigating that characterize a subject area. Standards may emphasize interdisciplinary themes as well as concepts in the core academic subjects.

Standards are based on:

1. **Higher Order Thinking:** Instructions involve students in manipulating information and ideas by synthesizing, generalizing, explaining, or arriving at conclusions that produce new meaning and understanding for them.
2. **Deep Knowledge:** Instructions address central ideas of a topic or discipline with enough thoroughness to explore connections and relationships and to produce relatively complex understanding.
3. **Substantive Conversation:** Students engage in extended conversational exchanges with the teacher and or peers about the subject matter in a way that builds an improved and shared understanding of ideas or topics.
4. **Connections to the World Beyond the Grade Room:** Students make connections between substantive knowledge and either public problems or personal experiences.

BENCHMARKS indicate what students should know and be able to do at various developmental levels.

LEARNING OUTCOMES indicate what students should know and be able to do for each topic in any subject area at the appropriate developmental level. The learning outcomes sum up the total expectations from the student.

The standards and the accompanying benchmarks will assist in the development of a comprehensive curriculum, foster diversity in establishing high-quality learning outcomes, and provide an accountability tool to individuals involved in the education marketplace. These provide a common denominator to determine how well students are performing and will assure that all students are measured on the same knowledge and skills using the same method of assessment.



Domain A: Introduction to Library and Library Science

Standard: Students will be skilled in understanding how libraries work, explaining why they're important, describing different roles they play, and planning how to develop a library, considering things like who will use it, the setup, and what needs to be acquired.

Grade XI	
Benchmark: Organize their knowledge of libraries to run and manage a functional library	
Contents	Student Learning Outcomes (SLOs)
<ul style="list-style-type: none"> • Meaning and Definition of Library and Library Science. • Need and Importance of Libraries • Five Laws of Library. • Discuss the Roles and Functions of the Library. • Components of Library; Collection, Building, Furniture & Equipment, Library Services and other Library Facilities, etc 	<p>Students will be able to:</p> <p>[SLO: LS-11-A-01]: Define library and library science.</p> <p>[SLO: LS-11-A-02]: Explain the concept of physical libraries</p> <p>[SLO: LS-11-A-03]: Explain the importance of libraries.</p> <p>[SLO: LS-11-A-04]: Explain the Rules and Laws of libraries.</p> <p>[SLO: LS-11-A-05]: Describe the various roles and functions of a library</p> <p>[SLO: LS-11-A-06]: Explore aspects of library development, including understanding the needs of users, basic infrastructure considerations, and the essentials of procurement</p>



Domain B: History and Development of Libraries

Standard: Demonstrate a comprehensive understanding of library history, from ancient libraries such as Iskandariya and Asurbanipal to the evolution of libraries in the Muslim Era, by explaining their origins, describing the sources of archived works, detailing their functionality and uses, and discussing the origins of historical libraries in Pakistan.

Grade XI	
Benchmark: Analyze and contextualize the historical development of libraries	
Contents	Student Learning Outcomes (SLOs)
<ul style="list-style-type: none"> Historical Background of Libraries, Ancient Libraries: Asurbanipal, Iskandariya, Pergamum etc. Preservation of material in libraries of the ancient world Evolution of libraries of the ancient world Libraries of the Muslim World: Kutubkhana e Mehmodia (Madina), Baitulhikmah (Baghdad), Darul – Ilm (Egypt), Al-Hakam II (Spain) Various Historical Libraries in Pakistan: Punjab Public Library (Lahore), Dayal Singh Library (Lahore), Central Library Bahawalpur etc. Historical libraries of Sindh; Frere Hall Library (Karachi), Liaquat Memorial Library, Library Institute of Sindhology, etc. 	<p>Students will be able to:</p> <p>[SLO:LS-11-B-01]: Explain the origin and historical development of libraries, like Iskandariya, Asurbanipal, etc.</p> <p>[SLO:LS-11-B-02]: Describe the sources of works archived in various libraries in the ancient world.</p> <p>[SLO:LS-11-B-03]: Describe the evolution of libraries in terms of functionality and uses</p> <p>[SLO:LS-11-B-04]: Describe the various libraries of the Muslim Era.</p> <p>[SLO:LS-11-B-05]: Discuss the various historical and major libraries in Pakistan and their origins.</p> <p>[SLO:LS-11-B-06]: Discuss the various historical libraries of Sindh and their origin.</p>



- Libraries of the Modern World:
Library of Congress (America),
British Museum Library (England),
Bibliotheca De National (France),
Leningrad State Library (Russia),
University of Gottingen Library
(Germany), National Library of
China, etc.

[SLO:LS-11-B-07]:

Discuss the various libraries of the Modern World



Domain C: Types of Libraries

Standard: Evaluate the role and function of various types of libraries in different communities.

Grade XI	
Benchmark: Organize knowledge banks based on different types of libraries.	
Contents	Student Learning Outcomes (SLOs)
<ul style="list-style-type: none">Types of Libraries	Students will be able to: [SLO:LS-11-C-01]: Identify different types of libraries
<ul style="list-style-type: none">The National LibraryNeed, purpose, and role of the National Library.	[SLO:LS-11-C-02]: Explain the National libraries.
<ul style="list-style-type: none">Academic Library.Need, purpose, and role of the Academic Library	[SLO:LS-11-C-03]: Describe the Academic libraries.
<ul style="list-style-type: none">Public Library.Need, purpose, and role of the Public Library	[SLO:LS-11-C-04]: Describe the Public libraries.
<ul style="list-style-type: none">Special Library.Need, purpose, and role of the Special Library	[SLO:LS-11-C-05]: Describe the Special libraries.
<ul style="list-style-type: none">Personal Library.Need, purpose, and role of the Personal Library	[SLO:LS-11-C-06]: Describe the Personal libraries.
<ul style="list-style-type: none">Digital Library.Need, purpose, and role of the Digital Library	[SLO:LS-11-C-07]: Describe the Digital libraries.
<ul style="list-style-type: none">Role of the libraries in the community	[SLO:LS-11-C-08]: Compare and contrast the role of various libraries on the community at large.



Domain D: Types of Library Materials

Standard: Students will master information management by analyzing diverse library resources, understanding various genres and formats, discerning between traditional and digital materials, and demonstrating proficiency in e-publishing concepts, thereby developing critical skills for advanced research and effective communication in the digital.

Grade XI	
Benchmark: Classify and organize various library materials based on the nature, type, and purpose of a library.	
Contents	Student Learning Outcomes (SLOs)
<ul style="list-style-type: none"> • Historical background of writing (pictography, ideography, phonography, etc) • Knowledge recording and printing • Evolution of writing material; from ancient to present (clay tablets, papyrus, etc.) • Book material • Non-book material • Primary and secondary sources • Digital materials 	<p>Students will be able to:</p> <p>[SLO:LS-11-D-01]: Describe the emergence art of writing and knowledge recording and printing.</p> <p>[SLO:LS-11-D-02]: Describe the evolution of various writing materials.</p> <p>[SLO:LS-11-D-03]: Articulate the various genres found in libraries, including an in-depth understanding of book materials such as general books, reference books, research publications, and textbooks.</p> <p>[SLO:LS-11-D-04]: Demonstrate comprehensive knowledge of non-book materials available in libraries, encompassing magazines, newspapers, serial publications, maps, and cartographic materials.</p> <p>[SLO:LS-11-D-05]: Evaluate the significance of primary and secondary sources in the research process, showcasing an understanding of their respective roles and applications.</p> <p>[SLO:LS-11-D-06]: Explore and articulate the characteristics of digital materials, including audio, videos, and online databases, while also assessing their impact on information retrieval and dissemination.</p>



<ul style="list-style-type: none">• E-publication • Application and evaluation of E-publication	<p>[SLO: LS-11-D-07]: Demonstrate a nuanced comprehension of E-publishing, including its principles, processes, and implications for the dissemination of information in the digital age.</p> <p>[SLO: LS-11-D-08]: Apply knowledge of E-publishing by creating and critically evaluating electronic publications, and understanding their role in contemporary information systems.</p>
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Domain E: Use of Books and Libraries

Standard: Students will exhibit and demonstrate their skills in carrying out different library procedures with special reference to the usage of books and libraries.

Grade XI	
Benchmark: Identify the essential components of the book and exhibit their reading skills and knowledge about the library procedures.	
Contents	Student Learning Outcomes (SLOs)
<ul style="list-style-type: none"> • Parts of the book 	<p>Students will be able to:</p> <p>[SLO: LS-11-E-01]:</p> <p>Define the book and identify its parts.</p>
<ul style="list-style-type: none"> • Title page 	<p>[SLO: LS-11-E-02]:</p> <p>Explain Title Pages and their types, and describe the need, purpose, and importance of the title page.</p>
<ul style="list-style-type: none"> • Table of contents 	<p>[SLO: LS-11-E-03]:</p> <p>Explain the Table of Contents, and describe the need, purpose, and importance of the table of contents.</p>
<ul style="list-style-type: none"> • Preliminary pages 	<p>[SLO: LS-11-E-04]:</p> <p>Explain the Preface, Foreword, and Introduction, and describe the need, purpose, and importance of the preface, foreword, and introduction.</p>
<ul style="list-style-type: none"> • Body of the text 	<p>[SLO: LS-11-E-05]:</p> <p>Explain the Body Text; describe the need, purpose, and importance of the body text.</p>
<ul style="list-style-type: none"> • Auxiliary pages 	<p>[SLO: LS-11-E-06]:</p> <p>Explain appendices, glossary, index, reference, and bibliography (need, purpose, and importance)</p>
<ul style="list-style-type: none"> • Indexing and bibliography 	<p>[SLO: LS-11-E-07]:</p> <p>Identify and explain Indexing and bibliography (types and its application)</p>



- Using library

1. Accession Register
2. Catalogue
3. Call Number
4. Shelf Arrangement
5. Reference Desk
6. Membership
7. Issuing Return

[SLO: LS-11-E-08]

Understand the usage of library facilities and services.



Domain F: Benefits of Libraries

Standard: Students will be able to understand and realize the need, role, and benefits of libraries in society.

Grade XI	
Benchmark: Acquire a complete understanding of the benefits of libraries.	
Contents	Student Learning Outcomes (SLOs)
<ul style="list-style-type: none"> • Role of library in the Society 	<p>Students will be able to:</p> <p>[SLO: LS-11-F-01]:</p> <p>Articulate the multifaceted role of libraries, encompassing their functions as information repositories, community hubs, and cultural institutions.</p>
<ul style="list-style-type: none"> • Impact of the library on the society 	<p>[SLO: LS-11-F-02]:</p> <p>Evaluate and communicate the profound impact of libraries on daily life and diverse communities, recognizing their significance in fostering knowledge, inclusivity, and civic engagement.</p>
<ul style="list-style-type: none"> • Role of the Library in promoting education, research, and preserving culture 	<p>[SLO: LS-11-F-03]:</p> <p>Recognize and articulate the essential societal need for libraries, highlighting their role in promoting education, research, and preserving culture</p>
<ul style="list-style-type: none"> • Impact of library on social development 	<p>[SLO: LS-11-F-04]:</p> <p>Analyze and contrast the impact of various libraries and social developments on communities, emphasizing their roles and contributions.</p>
<ul style="list-style-type: none"> • Role of the library in recreational activities. 	<p>[SLO: LS-11-F-05]:</p> <p>Synthesize and organize recreational activities in conjunction with library resources, demonstrating an understanding of how these elements contribute to community engagement and well-being.</p>



Domain G: Librarianship in Pakistan

Standard: Analyze the different factors associated with librarianship in Pakistan.

Grade XI	
Benchmark: Organize their knowledge of libraries and librarianship in the particular context of Pakistan.	
Contents	Student Learning Outcomes (SLOs)
<ul style="list-style-type: none">• Librarianship in Pakistan.	Students will be able to: [SLO: LS-11-G-01]: Discuss different aspects of librarianship in Pakistan.
<ul style="list-style-type: none">• History of librarianship in Pakistan	[SLO: LS-11-G-02]: Explain the history of librarianship in Pakistan.
<ul style="list-style-type: none">• Importance of librarianship	[SLO: LS-11-G-03]: Defend the importance of librarianship
<ul style="list-style-type: none">• Library science literature in Pakistan	[SLO: LS-11-G-04]: Evaluate the different types of publications in Pakistan.
<ul style="list-style-type: none">• Library Associations in Pakistan	[SLO: LS-11-G-05]: Discuss the role and importance of Library Associations.



PRACTICES FOR GRADE XI

Domain	PRACTICAL	REQUIREMENTS
A. Introduction to Library and Library Science	<ul style="list-style-type: none"> Write a note on the major components of a library System. 	Library Science Reference Books
B. History and Development of Libraries	<ul style="list-style-type: none"> Write a short note about any given ancient library Study the Library of Congress or British Museum Library in detail and write an essay about their collection and services Visit any major library and write a report of your visit 	<ul style="list-style-type: none"> Library Science Reference Books Internet resources Library Tour
C. Types of Libraries	<ul style="list-style-type: none"> Write an essay on the salient features of a particular type of library. 	<ul style="list-style-type: none"> Library Science Reference Books
D. Types of Library Materials	<ul style="list-style-type: none"> Visit your Library, identify and make a list of various types of materials in the library Locate specific information in a relevant reference source Visit a nearby printing press and write a report on your observations of the Printing process Evaluate a given writing medium and report its merits and demerits 	<ul style="list-style-type: none"> Guided tour of College Library Library Science Reference Books Study tour Evaluate a given writing medium and report its merits and demerits Evaluate a given writing medium and report its merits and demerits
E. Use of Books and Libraries	<ul style="list-style-type: none"> Take a book from the library and list its parts and their contents Preparation of the index of a book Periodical and Newspaper (Approx 10 Entries) Draw & make entries in the accession register (Approx 5 entries) Compilation of a bibliography on any assigned topic (Approx 15 entries) 	Library Books, newspapers, accession register
F. Benefits of Libraries	<ul style="list-style-type: none"> Write an essay on the 'Role of the Library' in your personal life 	<ul style="list-style-type: none"> Library books
G. Librarianship in Pakistan	<ul style="list-style-type: none"> Write an essay on the Pakistan Library Association (PLA) or Sindh College Library Association (SCLA) 	<ul style="list-style-type: none"> Internet Websites or Library Science Reference Books



GRADE XI PERCENTAGE WEIGHTAGE DOMAIN-WISE TIME ALLOCATION

DOMAIN	PERIODS	WEIGHTAGE IN %
A	8	7
B	24	20
C	12	10
D	34	30
E	18	13
F	12	10
G	12	10
Total	120	100%

DOMAIN	Theory	Practical	Assessment	Weightage in %
A	5	2	1	7
B	20	2	2	20
C	9	1	2	10
D	26	4	4	30
E	12	4	2	13
F	10	1	1	10
G	8	2	2	10
Total	90	16	14	100%



Domain H: Library Administration

Standard: Demonstrate and reflect upon the key competencies needed for effective library administration.

Grade XII	
Benchmark: Demonstrate an understanding of how the library administration works.	
Content	Student Learning Outcomes (SLOs)
<ul style="list-style-type: none"> Library Administration 	<p>Students will be able to:</p> <p>[SLO: LS-12-H-01]: Explain the library administration.</p>
<ul style="list-style-type: none"> Library Management 	<p>[SLO: LS-12-H-02]: Describe the importance of library management and administration.</p>
<ul style="list-style-type: none"> Administration System 	<p>[SLO: LS-12-H-03]: Use the latest administrative system</p>
<ul style="list-style-type: none"> Library Budget 	<p>[SLO: LS-12-H-04]: Define library budget. Identify its common sources like Govt. funding, parent institutes, and donations</p>
<ul style="list-style-type: none"> Library Building and physical facilities 	<p>[SLO: LS-12-H-05]: Explain various features of the library building and evaluate the requirements of each area of the library.</p>
<ul style="list-style-type: none"> Library Staff 	<p>[SLO: LS-12-H-06]: Explain the terms professional, non-professional, and para-professional staff.</p>



Domain I: Acquisition of Library Material

Standard: Demonstrate a thorough understanding of library functions and materials.

Grade XII	
Benchmark: Apply to develop their knowledge of library acquisition procedures.	
Content	Student Learning Outcomes (SLOs)
<ul style="list-style-type: none">• Selection tools for library material	<p>Students will be able to:</p> <p>[SLO: LS-12-I-01]: Describe which sources can be helpful for the selection of library material</p>
<ul style="list-style-type: none">• Selection Procedure	<p>[SLO: LS-12-I-02]: Explain the importance of the selection procedure</p>
<ul style="list-style-type: none">• Library committee	<p>[SLO: LS-12-I-03]: Identify the importance of faculty members and library members in the selection of library material.</p>
<ul style="list-style-type: none">• Sources of Acquiring Library Material	<p>[SLO: LS-12-I-04]: Describe the sources needed to acquire library material through purchase, donation/ gift, and exchange.</p>
<ul style="list-style-type: none">• Accession Register	<p>[SLO: LS-12-I-05]: Demonstrate the importance of the accession register.</p>



Domain J: Classification and Cataloguing

Standard: Demonstrate proficiency in the effective application of library cataloging and classification techniques, refining skills in their execution.

Grade XII	
Benchmark: Apply library cataloging and classification techniques effectively. Sharpen their skills in how library cataloging and classification can be done.	
Contents	Student Learning Outcomes (SLOs)
<ul style="list-style-type: none"> • Classification 	<p>Students will be able to:</p> <p>[SLO: LS-12-J-01]: Explain the features of a good classification scheme.</p>
<ul style="list-style-type: none"> • Importance of classification 	<p>[SLO: LS-12-J-02]: Explain the Importance of classification.</p> <p>[SLO: LS-12-J-03]:</p>
<ul style="list-style-type: none"> • Dewy decimal classification (DDC) 	<p>Describe the Dewy decimal classification scheme including 03 summaries.</p> <p>[SLO: LS-12-J-04]:</p>
<ul style="list-style-type: none"> • Cataloguing 	<p>Define library cataloguing and its importance.</p> <p>[SLO: LS-12-J-05]:</p>
<ul style="list-style-type: none"> • Cataloguing rules 	<p>Discuss the different cataloging rules.</p> <p>[SLO: LS-12-J-06]:</p>
<ul style="list-style-type: none"> • Types and forms of Catalogue 	<p>Explain the different types and forms of catalogue.</p> <p>[SLO: LS-12-J-07]:</p>
<ul style="list-style-type: none"> • Cataloging rules (AACR-II) 	<p>Apply different cataloging rules.</p>



Domain K: Circulation Service.

Standard: Design a user-friendly library circulation system.

Grade XII	
Benchmark: Students will learn various book issue and return methods used by libraries.	
Contents	Student Learning Outcomes (SLOs)
<ul style="list-style-type: none">• Circulation Service• Policies, Rules, and Regulations<ul style="list-style-type: none">- Criteria and procedure for library membership- Interlibrary loan- Reminder/ Overdue• Types of Circulation System	<p>Students will be able to:</p> <p>[SLO: LS-12-K-01]: Describe the circulation service, its need, and its importance.</p> <p>[SLO: LS-12-K-02]: Explain the policies, rules, and regulations of circulation</p> <p>[SLO: LS-12-K-03]: Discuss the library membership criteria and procedure.</p> <p>[SLO: LS-12-K-04]: Define the inter-library loan and its importance.</p> <p>[SLO: LS-12-K-05]: Explain the reminder, overdue, and fine policy.</p> <p>[SLO: LS-12-K-06]: Apply the key concepts of policies, rules, and regulations in circulation.</p> <p>[SLO: LS-12-K-07]: Identify the types of circulation systems i.e. ledger, card, and automated.</p> <p>[SLO: LS-12-K-08]: Compare the efficiency and advantages of automated and manual charring systems.</p>



Domain L: Reference Services.

Standard: Design user-friendly library reference services.

Grade XII	
Benchmark: Design user-friendly library services using their knowledge of library reference services.	
Contents	Student Learning Outcomes (SLOs)
<ul style="list-style-type: none"> • Reference service • Reference sources (Encyclopedia, Dictionary, Directory, Globe, Atlas, etc.) • Current Awareness Service (CAS) • Categories of Reference Services • Training and workshops • User-friendly strategies 	<p>Students will be able to:</p> <p>[SLO: LS-12-L-01]: Describe the importance of reference services.</p> <p>[SLO: LS-12-L-02]: Explain the basic reference sources and demonstrate skill for usage.</p> <p>[SLO: LS-12-L-03]: Explain the current awareness services.</p> <p>[SLO: LS-12-L-04]: Categorize the different reference services.</p> <p>[SLO: LS-12-L-05]: Explain the importance of training and workshops to provide in-depth knowledge of reference resources.</p> <p>[SLO: LS-12-L-06]: Plan different strategies to facilitate the readers.</p>



Domain M: Library Automation.

Standard: Create a complete plan to automate libraries.

Grade XII	
Benchmark: To create a clear understanding of library automation.	
Contents	Student Learning Outcomes (SLOs)
<ul style="list-style-type: none">Library Automation	<p>Students will be able to:</p> <p>[SLO: LS-12-M-01]: Explain the concept of library automation.</p>
<ul style="list-style-type: none">Digital Libraries	<p>[SLO: LS-12-M-02]: Explain the concept of digital libraries.</p>
<ul style="list-style-type: none">Automated Procedures	<p>[SLO:LS-12-M-03]: Compare and contrast different physical and automated procedures.</p>
<ul style="list-style-type: none">Online Library Procedures and Services	<p>[SLO:LS-12-M-04]: Describe the online library procedures and services.</p>
<ul style="list-style-type: none">Online Public Access Catalogue (OPAC)	<p>[SLO:LS-12-M-05]: Explain the usage of OPAC for searching library resources.</p>
<ul style="list-style-type: none">Planning of Library Automation	<p>[SLO: LS-12-M-06]: Create a plan to work on library automation.</p>



PRACTICES FOR GRADE XII

Domain	PRACTICAL	REQUIREMENTS
H. Library Administration	<ul style="list-style-type: none">• Write an essay on the duties of professional staff• Visit a library and write a visit report• Identify and list components of various library areas in the building	<ul style="list-style-type: none">• Course Book• Library Tour
I. Acquisition of Library Material	<ul style="list-style-type: none">• Make a list of steps involved in library book acquisition	<ul style="list-style-type: none">• Course Books
J. Classification and Cataloguing	<ul style="list-style-type: none">• Assign 3-digit classification numbers to given books using Dewey's Decimal Classification Scheme• Prepare the Main Card of 10 books using AACR II	<ul style="list-style-type: none">• Copy of Summaries of Dewey's Decimal Classification Scheme• Copy of AACR II• College Library
K. Circulation Services	<ul style="list-style-type: none">• Study the Circulation Services of your College Library and write a note on the method used	<ul style="list-style-type: none">• College Library
L. Reference Services	<ul style="list-style-type: none">• Obtain a library handbook and identify the information available• Locate particular information for the users in the library Reference Resources	<ul style="list-style-type: none">• Library Handbook• Reference books in the library
M. Library Automation	<ul style="list-style-type: none">• Study the various types of Online Information Resources available on the Internet• Create a work plan for your college library automation	<ul style="list-style-type: none">• Internet Access Computers
N. Marketing of Library Services	<ul style="list-style-type: none">• Execute an activity for marketing your college library	<ul style="list-style-type: none">• Internet Access Computers



GRADE XII PERCENTAGE WEIGHTAGE DOMAIN-WISE TIME ALLOCATION

DOMAIN	PERIODS	WEIGHTAGE IN %
H	24	20
I	12	10
J	24	20
K	12	10
L	24	20
M	12	10
N	12	10
Total	120	100%

DOMAIN	THEORY	PRACTICAL	ASSESSMENT	WEIGHTAGE IN %
H	20	2	2	20
I	8	2	2	10
J	16	4	4	20
K	8	2	2	10
L	18	4	2	20
M	8	2	2	10
N	8	2	2	10
Total	86	18	16	100%



INSTRUCTIONS IN THE CLASSROOM

A good teacher is expected to follow the following guidelines.

1. Thorough grinding and mastery of the subject matter which he/she teaches.
2. Scholarly attitude towards teaching/learning in the class and on the campus of the school i.e. thoughtfully reflective personality.
3. Highly effective communication skills in writing, speaking, and listening.
4. Respectful of the methods of science and mindful of the nature of scientific knowledge
5. Practicing believers in the core values of science such as:
6. Letting students express their understanding i.e. their version of what was taught in the class and why.
7. Giving more time to what students think and less time to what teachers think
8. Realizing that students construct their knowledge and that this construction is greatly influenced by what the student already knows i.e. his/her prior knowledge. This implies that no student comes to the classroom with an empty head and that no information can be transferred intact from the head of the teacher to the head of the student.
9. There are various theories and models available which deal with understanding the process of learning. Teachers must base their practice of teaching on some theory and be able to explain or try to explain what works in the classroom and why.
10. Teachers should realize that teaching is not just drilling information into the head of students nor is it just muddling through to teach as he was taught. It is a form of scholarship in which teachers are involved in action research. They look for new examples and non-examples. They sequence information in different ways and look for the best sequence. They diagnose the learning difficulties of students by looking into their prior knowledge where they search for misconceptions and knowledge gaps. They focus on the learning styles of individual students and recognize slow and fast learners.
11. Students observe their teachers and notice so many things about them and they talk about what they like or do not like. Teaching is close to show business and we can borrow much from the people in the show business.
12. The facility of well-organized libraries should be present which must be equipped with the latest and up-to-date knowledge and teachers should encourage the students to use the libraries and the latest developments in the concerned subject



TEACHING-LEARNING PROGRAM

The topics, or objectives within topics, can be taught in any order keeping in view the needs of teachers and students.

Achievement of the educational objectives requires thoughtfully designed teaching situations. It is assumed that students will achieve the educational objectives by way of ongoing interaction between theoretical information and practical experience; it, therefore, follows that the teaching approaches and materials used should:

1. Represent Library Science as part of the process of scientific inquiry (rather than a rhetoric of conclusions)
2. Use inquiry-based teaching strategies where possible.
3. Be student-centered, assisting students to derive their concepts from evidence and providing practical opportunities to develop individual reasoning abilities and motor skills
4. Exemplify the concept from a local scenario.
5. When beginning a new area of study, provide very direct, concrete experience - through classroom, laboratory, and fieldwork - or the next best substitute when direct experience is not feasible.
6. Provide rewarding opportunities to apply scientific understanding and ways of thinking to problems, especially everyday ones.
7. Provide opportunities, refine ideas through dialogue with others, and work with them in ways to foster cooperative abilities.
8. Provide opportunities to develop skills in written and oral communication.
9. Use testing as a diagnostic as well as an achievement tool

Teachers' Training and Refresher Courses

Effective and meaningful education in Library Science can only be guaranteed if the teacher, the key pivot of change, is developed enough in contents as well as methodology. In-service training may help the teachers to become familiar with a variety of strategies for the successful delivery of the curriculum.

The curriculum development and revision is a continuous process in all stages of education so is the process of updating the teacher education programs at pre-service as well as in-service stages. If the teacher is not fully equipped and trained to handle the new curricula, the curriculum transaction will not be appropriate and consequently, the learning will be inadequate. Teachers' training needs the following actions:

1. Pre-service teacher training institutions are strengthened and their curricula are revised to meet the demands of fast changing and developing world.
2. In-service training should cover contents and methodologies. Content upgrading in Library Science is an urgent need for effective teaching. Emphasis should specifically be laid on learner-centered and activity-based approaches, classroom demonstrations, active participation by the students, and field interactions should become major components of in-service training programs. Workshops seminars and extension lectures should be organized more frequently and regularly, particularly during summer vacation.
3. Well-equipped resource centers should be established at the training institutions for ready help to the needy teachers.



ASSESSMENT AND EVALUATION IN LIBRARY SCIENCE

The purpose of assessment is to find out whether students have acquired the kind of skills, knowledge, and understanding that we set as goals for our courses.

This purpose is achieved traditionally by examining the end of the session called summative assessment. In this form of assessment, teachers require students to express their understanding of what teachers taught them, and the performance of students is measured as grade points. This is a convenient form of assessment because it is easy to carry out and it does not consume much time.

However, this form of assessment is a single snapshot at the end of the session and does not provide an opportunity either to the student or to the teacher to interact formatively throughout the session as the student strives to develop his understanding of the content and purpose of the course.

This vacuum can be filled by using **FORMATIVE ASSESSMENT**, which is an ongoing process throughout the session and uses the Test-Feedback-Adjust cycle repeatedly to improve students' performance and efficiency in learning.

Guidelines for Appropriate Assessment

Assessment Procedures

1. In addition to the end-of-the-session exam, the practice of formative assessment should be used throughout the session.
2. Tasks in the Formative mode of assessment should include
 - **Homework**
 - **Quizzes**
 - **Frequent written tests**
 - **Group discussion**
 - **Oral Presentation**
3. Feedback on students' work in the above tasks should be provided to the students.
4. Question setting should be specifically directed to finding out the following Skills, Knowledge, and understanding according to Bloom's Taxonomy as given below
 - a. **Recall and retrieve** information related to the contents of the course. Leading words for setting questions: List, define, identify, label, tabulate, name, who, when, Where, and so on.
 - b. **Comprehend** the information i.e. do they know what it means? Leading words for setting questions: Interpret, predict, distinguish, differentiate, estimate, discuss, etc.
 - c. **Apply** their knowledge i.e. do they know what is it good for? Leading words for setting questions: Demonstrate, show, solve, classify, illustrate, modify, change, discover, etc.
 - d. **Analyze and synthesize** information i.e. taking things apart and putting them together. Leading words for setting questions:
Analyze: analyze, separate, explain, arrange, compare, infer
Synthesize: combine, integrate, rearrange, create, formulate, design, etc.
Evaluate information i.e. weighing available options leading words for setting questions:
Decide measure recommend, select, conclude, compare, summarize, etc.



5. Assessment should measure the capacity of students for critical judgment.
6. Assessment should focus on learning potentials for future learning on their own.
7. The question paper should cover the entire syllabus.
8. There should be a choice in the paper.
9. The paper should include Essay-type questions, short questions, and MCQs.
10. Assessment should not judge weaknesses only but it must also focus on students' strengths and capabilities.
11. The assessment should be able to measure the initiative and drive of the students.
12. The teacher must make sure that the student during assessment feels comfortable and relaxed rather than tense and anxious.
13. Assessment language should be simple, clear, and unambiguous.



FORMATIVE ASSESSMENT

The formative assessment should be a part of the classroom learning. Following may be the devices on which the said objectives can be achieved:

- Objective enhancement-worksheets, quizzes, and tests
- Observation
- Review questions
- Classroom discussions
- Oral presentation

The formative assessment should be cumulative and comprehensive and cover all objectives as per the curriculum. Grading of students should be done through the use of assessment instruments that cover the expectations as defined by the objectives of the curriculum.

Evaluation Strategy:

An external examination is recommended at the end of the course. This evaluation should measure all the domains of learning and through it, the attainment of the objectives can be measured. The weightage of the different domains of learning is given below;

Learning Domains for Measurement	Weightage in Evaluation
• Knowledge, Comprehension, Analysis, Evaluation, Synthesis, Application:	60 %
• Skills in Communication, Initiating and Planning, Designing Experiments, and Interpreting Data:	20%
• Manipulative skills (Performing Practical Work)	20%



Weighing of Assessment Objectives

Theory assessment: The theory examination is suggested to consist of a wide variety of questions. The assessment should be designed to examine the candidate's understanding of the whole syllabus and should test the following range of abilities.

<ul style="list-style-type: none"> • Knowledge and understanding (recall 30%) 	60 %
<ul style="list-style-type: none"> • Higher abilities (handling information, application, and problem solving, etc.) 	40%

Practical Assessment: This is designed to test Experimental skills and investigations.

Suggestions for Structuring Assessment and Evaluation Tools:

More Emphasis should be on;	Less Emphasis should be on;
<ul style="list-style-type: none"> • Assessing what I most highly valued 	<ul style="list-style-type: none"> • Assessing what is easily measured
<ul style="list-style-type: none"> • Assessing rich, well-structured knowledge 	<ul style="list-style-type: none"> • Assessing discrete knowledge
<ul style="list-style-type: none"> • Assessing scientific understanding and reasoning 	<ul style="list-style-type: none"> • Assessing scientific knowledge
<ul style="list-style-type: none"> • Assessing to learn what students do understand 	<ul style="list-style-type: none"> • Assessing to learn what students do not know
<ul style="list-style-type: none"> • Assessing achievement and opportunity to learn 	<ul style="list-style-type: none"> • Assessing to learn what students do not know
<ul style="list-style-type: none"> • Students engaged in ongoing assessment of their work and that of others 	<ul style="list-style-type: none"> • Assessing only achievement
<ul style="list-style-type: none"> • Teachers involved in the development of external assessments 	<ul style="list-style-type: none"> • Development of external assessments by experts alone
<ul style="list-style-type: none"> • The assessment pattern is subject to the requirements, policies, and procedures of the Examination Boards. 	
<ul style="list-style-type: none"> • Question papers should be based on the curriculum, not on a particular textbook 	
<ul style="list-style-type: none"> • Questions involving unfamiliar contexts or daily-life experiences may be set to assess candidates' problem-solving and higher-order processing skills. In answering such questions, sufficient information be given for candidates to understand the situation or context. Candidates are expected to apply their knowledge and skills included in the syllabus to solve the problems. 	



GENERAL INSTRUCTIONS TO AUTHORS

The Sindh Curricula should be a reflection of our national needs and aspirations. This requirement can be met only if the textbooks are written per this curriculum. This curriculum meets not only the general aims and objectives but also fulfills the specific requirements of the individual subjects. Keeping these points in view the authors should observe the following points while writing the textbooks.

1. The authors should adhere to the learning outcomes of each concept or chapter as mentioned in the contents of the curricula.
2. The continuity of the concepts with the earlier classes, their integration, and logical development should be ensured.
3. Horizontal and vertical overlapping of the concepts should be avoided.
4. The textbook should be informative and interactive with questions to be put at suitable intervals to provoke the students to think.
5. The details of the treatment of the concept should be properly classified into headings and subheadings.
6. The language used should be simple; clear, straightforward, unambiguous, and easily comprehensible by the students of the particular level.
7. Simple questions may be asked within the chapter, which requires students to recall, think, and apply what they have just learned as well as to reinforce the learning of the concepts and principles.
8. The new advancements and developments in the subjects should be incorporated where appropriate.
9. The examples and applications should be from everyday life and contents should be inclusive be supportive of our cultural values.
10. Photographs, diagrams, and illustrations should be clear, labeled, and supportive of the text. Material-related flow charts and graphs may be given to fulfill different learning styles and needs.
11. Key points at the end of each chapter should provide a summary of the important concepts and principles discussed in the chapter.
12. Review questions should be given at the end of each chapter requiring students to recall, think, and apply what they have learned in this chapter. This should start with simple questions increasing the complexity gradually and should test the knowledge, understanding, and skills of the students. The last few questions should encourage the student to apply the concepts studied in this chapter.
13. Each chapter should be accompanied by its precise and coherent summary to be given at the end of the chapter.
14. Glossary and Practical work tasks should be included at the end of the textbook.
15. Must be Orientation of Authority before writing of textbooks
16. Textbooks may be written in “Three Languages” English, Sindhi and Urdu



ELECTRONIC INSTRUCTIONAL MATERIAL:

Electronic instructional material is gaining popularity in the developed world. Educational technology providers are successfully marketing courseware with instructional management, assessment, individualized learning paths, and professional development. Growing numbers of teachers have convenient and immediate access to entire libraries of instructional videos correlated to the curriculum. As far as the educational scenario in Pakistan and other developing countries is concerned, a lack of resources (particularly in schools) would hold back the evolution of electronic publishing in place of or along with printing.

It may be considered that a good ratio of the students of all classes have access to computer technologies. They should be given chances to self-learn (rather than explore the knowledge) and this can be made true by converting the data of the textbooks into electronic formats e.g. CD-ROMs. The CD-ROMs should be made available at the retail outlets. E-books should be available so that students can access them on their own.

The flow sheet diagrams are more important to convey the desired learning. Printed textbooks cannot tackle the diagrams that need a 3-dimensional view for their understanding. Diagrams; photographs and animations should be published in electronic format i.e. CD-ROM that can be made an accessory item with the printed textbook, Such a CD should also have installed software for students' assessment and evaluation in the form of tests, quizzes, and games.



CHAPTER ORGANIZING SYSTEM

Chapter Organizing system - It should be taken into account that a consistent numbering system leads the students through each chapter at a glance in the beginning to conceptual heading throughout and finally to the summary of key concepts at the end. Each chapter should be organized in the following pattern:

DOMAIN NAME

Include SLOs

Outline:

Major Concepts:

- 1.1.
- 1.2.
- 1.3.

Introduction

1.1. MAJOR CONCEPT

(The depth of the topic should be kept with the teaching periods advised in the curriculum)

Tit-Bits/ Key information

Science Technology in Society Connection



Subheading # 1.1.1

Subheading # 1.1.2

Critical Thinking

Practical Activity:

EXERCISE:

The exercise should include;

1. Multiple Choice Questions
2. Short Questions
3. Extensive Questions

(Questions should be made that can check learning outcomes in all the domains i.e. knowledge, comprehension, application, evaluation, synthesis, and connection with technology and society.)



SALIENT FEATURES OF THE CURRICULUM

The curriculum is fully in harmony with the National Priorities and will provide an important momentum for achieving our vision for students.

Configuration with the Restructured Schemes of Studies:

The Ministry of Education went through an arduous exercise for restructuring the Schemes of Studies. The Curriculum Development Team; while designing the curriculum, selecting the syllabi contents, carving the learning outcomes (including practical skills), and suggesting the timeframes and evaluation strategies for the contents, maintained a concrete configuration with the restructured schemes of study.

The Focused Areas:

It has been focused that the curriculum provides to the students:

- Challenges and Enjoyment
- Breadth
- Progression
- Depth
- Personalization and Choice
- Coherence
- Relevance

Reduction in Load:

Since the quality of Library Science education at the secondary level needed not to be compromised in any way, the reduction in load from the syllabus required a very careful selection of topics to be taught. The Team chose to leave topics out if:

- **The question about why the student needs to study the topic at a particular stage could not be answered;**
- **The topic had no direct relevance to the student i.e. was not contextual;**
- **The content was repetitive across stages with no change in expected understanding, and**
- **Any topic was in isolation with no evident horizontal or vertical linkages.**

The need for a network of ideas and cross-linking between the areas being identified was deemed very important. While deciding on the chapters/topics and the depth of each topic for the secondary level, a holistic view of the syllabus across all stages from the primary to the higher secondary and beyond was taken. Reducing the use of too many technical terms and avoiding very large numbers of examples will also help to make the content a little lighter. The importance of careful selection of illustrations and their use to make the concepts more explicit was stressed; in Library Science, the quality of illustrations can make or mar any attempt at good textbooks/teaching.

The curriculum also takes up issues about the environment, health, and other ethical issues that arise with any interference of human beings in the natural processes, which have great relevance from the societal point of view.



Reasoning Vs Comprehension:

In secondary and higher secondary classes, abstraction, and quantitative reasoning come to occupy a more central place than in the primary and elementary classes. We have to avoid the attempt to be comprehensive. A topic can be made comprehensive in two ways;

- Adding many more concepts than can be comfortably learned in the given time frame
- Enumeration of things or types of things, even where there is no strong conceptual basis for classification

In the present revision, no attempt is made to be comprehensive. Unnecessary enumeration is avoided. The process by which factual knowledge can be acquired is more important than the facts themselves

The New Library Science Curriculum Strengths

1. Has a concrete structure, is well-sequenced yet offers flexibility, and maintains momentum over all the years of high school Library Science.
2. Highlights the degree of student expectations by laying out baseline levels of achievement at the end of grades X and XII respectively. These expectations are reflected within the Standards and Benchmarks as well as the Aims and Objects sections of the document.
3. Emphasizes Order Thinking through the seven years. Students are encouraged to think at higher levels for themselves, becoming independent of the teacher a life-long learning skill.
4. Focuses on all the cognitive levels of the Revised Bloom's taxonomy. There is a conscious effort to shift from simply knowing, remembering, and understanding to the more complex applying analyzing, evaluating, and creating skills required for success in this 21st-century world.
5. Makes positive connections among the contents taught, skills acquired, and a variety of real-life situational applications. The abstract begins to be more meaningful and students realize the "why" in their learning requirements.
6. Bridges the gaps between content knowledge and practical experiences by tying the two together. All practical work and fieldwork activities are now connected to their respective topics and where there are none, it clearly states so.
7. Has done away with redundant and repetitive topics and this made room to accommodate more current and contemporary Library Science topics that affect the lives of students today and will do so in the future as well. Provides flexibility to the teachers in terms of teaching time and preparation.
8. Allows students to experience the learning of science by doing science and not just listening to science.
9. Focuses on providing "thinking, creative, critical, and analytical opportunities to students and teachers.
10. Provides a chance to honestly compare the document with any similar document from around the globe.
11. Provides opportunities to explore the Library Science subject and discover the wonder of science for oneself.

Tremendous amounts of time, effort, and energy have gone into the preparation of the document. Hours have been spent discussing, arguing, and compromising on issues and topics as they arose. This document in your hands is the result of well-thought-out procedures and processes. Let our children begin to experience education in the truest sense of the term.



GLOSSARY OF TERMS USED IN LEARNING OUTCOMES/ ASSESSMENT

This glossary is intended to ensure that terms are commonly used in the context of learning outcomes and assessments are appropriately interpreted so that no confusion whatsoever arises in their use.

These words are listed below along with their contextual meaning.

We urge the users of these terms to strictly follow this glossary and associate meanings to the keywords as given in this glossary.

1. **Define (the term(s)...) is intended literally.** Only a formal statement or equivalent paraphrase, such as the defining equation with symbols identified, is required.
2. **What is meant by ...** normally implies that a definition should be given, together with some relevant comment on the significance or context of the term(s) concerned, especially where two or more terms are included in the question. The amount of supplementary comment intended should be interpreted in the light of the indicated mark value.
3. **Explain** may imply reasoning or some reference to theory, depending on the context.
4. **State** implies a concise answer with little or no supporting argument, e.g. a numerical answer that can be obtained 'by inspection'.
5. **The list** requires several points with no elaboration. Where a given number of points is specified, this should not be exceeded.
6. **Describe** requires candidates to state in words (using diagrams where appropriate) the main points of the topic. It is often used with reference either to particular phenomena or to particular experiments. In the former instance, the term usually implies that the answer should include a reference to (visual) observations associated with the phenomena. The amount of description intended should be interpreted in the light of the indicated mark value.
7. **Discuss** requires candidates to give a critical account of the points involved in the topic.
8. **Deduce/Predict** implies that candidates are not expected to produce the required answer by recall but by making a logical connection between other pieces of information. Such information may be wholly given in the question or may depend on answers extracted in an earlier part of the question.
9. **Suggest** is used in two main contexts. It may either imply that there is no unique answer or that candidates are expected to apply their general knowledge to a 'novel' situation, one that formally may not be 'in the syllabi'.
10. **Calculate** is used when a numerical answer is required. In general, work should be shown.



11. **Measure** implies that the quantity concerned can be directly obtained from a suitable measuring instrument, e.g. Mass using a balance.
 12. **Determine** often implies that the quantity concerned cannot be measured directly but is obtained by calculation, substituting measured or known values of other quantities into a standard formula e.g. relative molecular mass or ideal gas equation.
 13. **The show** is used where a candidate is expected to derive a given result. It is important that the terms being used by candidates are stated explicitly and that all stages in the derivation are stated clearly.
 14. **Estimate** implies a reasoned order of magnitude statement or calculation of the quantity concerned. Candidates should make such simplifying assumptions as may be necessary about points of principle and the values of quantities not otherwise included in the question.
 15. **Sketch**, when applied to graph work, implies that the shape and/or position of the curve need only be qualitatively correct. However, candidates should be aware that, depending on the context, some quantitative aspects may be looked for, e.g. passing through the origin, having an intercept, asymptote, or discontinuity at a particular value. On a sketch graph, candidates must indicate what is being plotted on each axis.
 16. **Sketch**, when applied to diagrams, implies that a simple, freehand drawing is acceptable; nevertheless, care should be taken over proportions and the clear exposition of important details.
- Compare** requires candidates to provide both similarities and differences between things or concepts.



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11.	Mr. Muhammad Yousif Joyo , Librarian DCAR Sindh Jamshoro	Member/ Secretary	



**GOVERNMENT OF SINDH
SCHOOL EDUCATION & LITERACY DEPARTMENT**

Karachi, dated the 8th, August 2024.

NOTIFICATION

NO. SELD/HCW/18/2018: In compliance with the Section 3, sub-section (4), (e) of Sindh School Education Standards & Curriculum Act 2014, Sindh Act No. IX of 2015, School Education & Literacy Department, Government of Sindh is pleased to accord **No Objection Certificate** for approval of **Sindh Curriculum for Library Science 2024** in Elective subject from Grade XI-XII, in General/ Humanities group as per Scheme of Studies ECE to XII 2024-25.

**- ZAHID ALI ABBASI-
SECRETARY TO GOVERNMENT OF SINDH**

NO. SELD/HCW/18/2018:

Karachi, dated the 8th, August 2024.

A copy for information and necessary action to:

1. The Chairman, Sindh Textbook Board, Jamshoro.
2. The Chief Advisor Curriculum Wing, School Education & Literacy Department, Government: of Sindh, Karachi.
3. The Director, Directorate of Curriculum, Assessment & Research, Jamshoro.
4. The P.S to Secretary School Education & Literacy Department, Government: of Sindh, Karachi.
5. The official website.
6. The office file.



Zahid Ali Abbasi
SECTION OFFICER (A&T-II)
For SECRETARY TO GOVERNMENT OF SINDH.